

WHAT IS CLAIMED IS:

1. A reaction probe chip comprising:  
a substrate having a plurality of discrete, regularly arranged through-holes; and  
a carrier filled into and held in the through-holes, the carrier having probe molecules fixed thereto such that the probe molecules are different according to the through-holes.
2. The reaction probe chip of claim 1, wherein  
the carrier having the probe molecules fixed thereto is a porous membrane or a nonwoven fabric, and  
the porous membrane or the nonwoven fabric is pasted to the substrate so as to close the through-holes.
3. The reaction probe chip of claim 1, wherein  
the carrier having the probe molecules fixed thereto is a powder of porous glass, and  
the powder of porous glass is entangled with or bound to a porous membrane or a nonwoven fabric pasted to the substrate so as to close the through-holes.
4. The reaction probe chip of any one of claims 1 to 3, wherein  
the probe molecules are DNA's, RNA's or PNA's and fragments thereof, oligonucleotides having arbitrary base sequences, antigens, antibodies or epitopes, and enzymes, proteins or functional site polypeptide chains thereof.
5. A reaction product detection system adapted to  
flow a sample simultaneously and slowly through a plurality of discrete through-holes regularly arranged in a substrate, the sample including fluorescence labeled DNA to be detected, thereby binding an analyte to probe molecules fixed in the through-holes, and  
detect the analyte by a fluorescence detector.